

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of:

Yuichi MATSUDA, et al.

Serial No.: Unassigned

Group:

Filed: Concurrently

Examiner:

FOR: FLAME-RETARDING THERMOPLASTIC RESIN COMPOSITION

Date: June 12, 2001

The Hon. Commissioner of  
Patents and Trademarks  
Washington, D.C. 20231

**PRELIMINARY AMENDMENT**

Sir:

Preliminary to examination, please amend the herewith filed application as follows:

IN THE CLAIMS

Please amend the claims as follows:

Please cancel claims 4-11 in their entirety and without prejudice.

Please enter the following new claims:

--12. (New) The flame-retarding thermoplastic resin composition of claim 1 wherein the thermoplastic resin of the component (A) comprises polyolefin resins, polystyrene resins,

polyamide resins, polyester resins, polycarbonate resins, polyphenylene ether resins and modified polyphenylene ether resins.

13. (New) The flame-retarding thermoplastic resin composition of claim 12 wherein the polyolefin resin comprises a polyethylene resin, polypropylene resin, poly-1-butene resin and poly-4-methyl-1-pentene resin.

14. (New) The flame-retarding thermoplastic resin composition of claim 1 wherein the nitrogen atom-containing phosphatic compound of the component (B) comprises a melamine pyrophosphate, ammonium polyphosphate and melamine phosphate.

15. (New) The flame-retarding thermoplastic resin composition of claim 12 wherein the nitrogen atom-containing phosphatic compound of the component (B) comprises a melamine pyrophosphate, ammonium polyphosphate and melamine phosphate.

16. (New) The flame-retarding thermoplastic resin composition of claim 1 wherein the hydroxyl group-containing compound or the partly esterified product thereof of the component (C) comprises pentaerythritol, dipentaerythritol, a partly esterified pentaerythritol and a partly esterified dipentaerythritol.

17. (New) The flame-retarding thermoplastic resin composition of claim 15 wherein the hydroxyl group-containing compound or the partly esterified product thereof of the component (C) comprises pentaerythritol, dipentaerythritol, a partly esterified pentaerythritol and a partly esterified

dipentaerythritol.

18. (New) The flame-retarding thermoplastic resin composition of claim 1 wherein the neutralizer for acids of component (D) comprises hydrotalcite, metal basic oxides and metal basic hydroxides.

19. (New) The flame-retarding thermoplastic resin composition of claim 17 wherein the neutralizer for acids of component (D) comprises hydrotalcite, metal basic oxides and metal basic hydroxides.

20. (New) A formed article of flame-retarding resin obtained by subjecting the flame-retarding thermoplastic resin composition of claim 1 to a forming process.

21. (New) A formed article of flame-retarding resin obtained by subjecting the flame-retarding thermoplastic resin composition of claim 19 to a forming process.

22. (New) The flame-retarding thermoplastic resin composition of claim 2 wherein the thermoplastic resin of the component (A) comprises polyolefin resins, polystyrene resins, polyamide resins, polyester resins, polycarbonate resins, polyphenylene ether resins and modified polyphenylene ether resins.

23. (New) The flame-retarding thermoplastic resin composition of claim 22 wherein the polyolefin resin comprises a polyethylene resin, polypropylene resin, poly-1-butene resin and poly-4-methyl-1-pentene resin.

24. (New) The flame-retarding thermoplastic resin

composition of claim 2 wherein the nitrogen atom-containing phosphatic compound of the component (B) comprises a melamine pyrophosphate, ammonium polyphosphate and melamine phosphate.

25. (New) The flame-retarding thermoplastic resin composition of claim 22 wherein the nitrogen atom-containing phosphatic compound of the component (B) comprises a melamine pyrophosphate, ammonium polyphosphate and melamine phosphate.

26. (New) The flame-retarding thermoplastic resin composition of claim 2 wherein the hydroxyl group-containing compound or the partly esterified product thereof of the component (C) comprises pentaerythritol, dipentaerythritol, a partly esterified pentaerythritol and a partly esterified dipentaerythritol.

27. (New) The flame-retarding thermoplastic resin composition of claim 25 wherein the hydroxyl group-containing compound or the partly esterified product thereof of the component (C) comprises pentaerythritol, dipentaerythritol, a partly esterified pentaerythritol and a partly esterified dipentaerythritol.

28. (New) The flame-retarding thermoplastic resin composition of claim 2 wherein the neutralizer for acids of component (D) comprises hydrotalcite, metal basic oxides and metal basic hydroxides.

29. (New) The flame-retarding thermoplastic resin composition of claim 27 wherein the neutralizer for acids of component (D) comprises hydrotalcite, metal basic oxides and

metal basic hydroxides.

30. (New) The flame-retarding thermoplastic resin composition of claim 2 wherein the triazine derivative of the component (E) comprises melamine and melamine cyanurate.

31. (New) The flame-retarding thermoplastic resin composition of claim 29 wherein the triazine derivative of the component (E) comprises melamine and melamine cyanurate.

32. (New) A formed article of flame-retarding resin obtained by subjecting the flame-retarding thermoplastic resin composition of claim 2 to a forming process.

33. (New) A formed article of flame-retarding resin obtained by subjecting the flame-retarding thermoplastic resin composition of claim 31 to a forming process.

34. (New) The flame-retarding thermoplastic resin composition of claim 3 wherein the thermoplastic resin of the component (A) comprises polyolefin resins, polystyrene resins, polyamide resins, polyester resins, polycarbonate resins, polyphenylene ether resins and modified polyphenylene ether resins.

35. (New) The flame-retarding thermoplastic resin composition of claim 34 wherein the polyolefin resin comprises a polyethylene resin, polypropylene resin, poly-1-butene resin and poly-4-methyl-1-pentene resin.

36. (New) The flame-retarding thermoplastic resin composition of claim 3 wherein the nitrogen atom-containing phosphatic compound of the component (B) comprises a melamine

pyrophosphate, ammonium polyphosphate and melamine phosphate.

37. (New) The flame-retarding thermoplastic resin composition of claim 34 wherein the nitrogen atom-containing phosphatic compound of the component (B) comprises a melamine pyrophosphate, ammonium polyphosphate and melamine phosphate.

38. (New) The flame-retarding thermoplastic resin composition of claim 3 wherein the hydroxyl group-containing compound or the partly esterified product thereof of the component (C) comprises pentaerythritol, dipentaerythritol, a partly esterified pentaerythritol and a partly esterified dipentaerythritol.

39. (New) The flame-retarding thermoplastic resin composition of claim 37 wherein the hydroxyl group-containing compound or the partly esterified product thereof of the component (C) comprises pentaerythritol, dipentaerythritol, a partly esterified pentaerythritol and a partly esterified dipentaerythritol.

40. (New) The flame-retarding thermoplastic resin composition of claim 3 wherein the neutralizer for acids of component (D) comprises hydrotalcite, metal basic oxides and metal basic hydroxides.

41. (New) The flame-retarding thermoplastic resin composition of claim 1 wherein the neutralizer for acids of component (D) comprises hydrotalcite, metal basic oxides and metal basic hydroxides.

42. (New) The flame-retarding thermoplastic resin

composition of claim 3 wherein the metal alkoxide of the component (F) comprises titanium alkoxides.

43. (New) The flame-retarding thermoplastic resin composition of claim 41 wherein the metal alkoxide of the component (F) comprises titanium alkoxides.

44. (New) A formed article of flame-retarding resin obtained by subjecting the flame-retarding thermoplastic resin composition of claim 3 to a forming process.

45. (New) A formed article of flame-retarding resin obtained by subjecting the flame-retarding thermoplastic resin composition of claim 43 to a forming process.--

#### REMARKS

Entry of the foregoing amendments prior to examination of this application is respectfully requested in view of the following comments.

Claims 4-11 have been cancelled to eliminate improper multiple dependent claims and new claims 12-45, which correspond to the cancelled claims presented in single dependent and proper multiple dependent form have been added. Accordingly, Claims 1-3, 12-45 are pending in this application.

Parameter	Value	Unit
Initial concentration	1.0	g/L
Initial pH	7.0	
Temperature	25	°C
Time	0-120	min
Agitation speed	150	rpm
Batch size	100	mL
Adsorbent dose	0.1-1.0	g/L
Adsorbent type	Activated carbon	
Adsorbent surface area	1000	m <sup>2</sup> /g
Adsorbent pore volume	0.5	cm <sup>3</sup> /g
Adsorbent density	1.5	g/cm <sup>3</sup>
Adsorbent particle size	0.15-0.25	mm
Adsorbent batch	1	
Adsorbent source	Commercial	
Adsorbent treatment	None	
Adsorbent regeneration	None	
Adsorbent reuse	None	
Adsorbent disposal	Landfill	
Adsorbent cost	1.0	\$/kg
Adsorbent availability	High	
Adsorbent stability	High	
Adsorbent toxicity	Low	
Adsorbent biodegradability	Low	
Adsorbent recyclability	Low	
Adsorbent renewability	Low	
Adsorbent sustainability	Low	
Adsorbent social acceptability	Low	
Adsorbent economic feasibility	Low	
Adsorbent technical feasibility	High	
Adsorbent environmental feasibility	Low	
Adsorbent overall feasibility	Low	
Adsorbent recommendation	Not recommended	

ctfully submitted,

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